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10/625,893

07/24/2003

Thinh Nguyen Phu

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1188

32294 7590 07/13/2007  
SQUIRE, SANDERS & DEMPSEY L.L.P.  
14TH FLOOR  
8000 TOWERS CRESCENT  
TYSONS CORNER, VA 22182

EXAMINER
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ZEWDU, MELESS NMN

ART UNIT	PAPER NUMBER
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2617

MAIL DATE	DELIVERY MODE
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07/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/625,893

**Applicant(s)**

PHU, THINH NGUYEN

**Examiner**

Meless N. Zewdu

**Art Unit**

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-37, 40 and 41 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-37 and 40-41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Response to Amendment*

1. This action is in response to the communication filed on 5/11/07.
2. Claims 1-39 are pending in this action.
3. In response to applicant's remark regarding the Vanttinen's reference (US 7,151,941) as being subject to an obligation of assignment to the same entity as the present application, examiner has removed the reference in question from further consideration.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 38 is rejected under 35 U.S.C. 102(e) as being anticipated by Komandur et al. (Komandur) (US 2003/0137948 A1).

**As per claim 38:** Komandur discloses a packet data communication system (abstract), comprising:

providing means for providing a wireless interface between a mobile

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device (see fig. 1, element 125) and an access network (see fig. 1, element 115) for communication of packet-data (see abstract);

supporting means for supporting communication of the packet data on the wireless interface (see abstract); and

monitoring means for monitoring at least one condition associated with the wireless interface (see paragraph 0045; 0049).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 6, 8-11, 13-17, 20, 22-37 and 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Komandur et al. (Komandur) (US 2003/0137948 A1) in view of Yarwood (US 6,161,016).

**As per claim 1:** Komandur discloses a packet data communication system, comprising:

at least one access network configured to provide a wireless interface between a mobile device and the at least one access network for communication of packet data (see paragraph 0032);

a core network comprising at least one core network node for supporting communication of packet data on the wireless interface (see paragraph 0032); and

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a controller/switch provided in association with the at least one access network and configured to monitor at least one condition associated with the wireless interface (see paragraph 0045). But, Komandur does not explicitly teach about releasing a communication link associated with a mobile device in the absence of a response to one or more messages/pages directed to the mobile device, as claimed by applicant. However, in the same field of endeavor, Yarwood teaches about a cellular radio system provided with a facility for broadcasting from a control center (see abstract) paging signals to mobile stations further including, if no mobiles respond to a page repetition from a base station, then it may be assumed that there are not longer any mobiles in the cell and the channel can be released by the broadcast center (see col. 7, lines 40-52). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify the teaching of Komandur with that of Yarwood for the advantage of reaching a mobile that is still within the cell, but missed a paging attempt (see col. 7, lines 44-47).

**As per claim 15:** the features of claim 15 are similar to the features of claim 1, except claim 15 is directed to a method comprising the steps to be performed by the system of claim 1. In other words the steps of claim 15 are required for the system of claim 1 to perform its intended function and the system of claim 1 is required so as to perform the steps of claim 15. Hence, claim 15 is rejected on the same ground and motivation as claim 1 since the method is required by the system.

**As per claim 32:** the features of claim 32 are similar to the features of claim 1, except, in response to receiving the notification (of the mobile being out of reach), retaining said

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data communication link but pausing from sending further data packets from the core network to the mobile device, which is taught by Komandur (see paragraphs 0045; 0049); and processing the data packets in accordance with a predefined policy, taught by Komandur (see abstract), wherein congestion control and avoidance can be considered as a data packet processing policy. Furthermore, it is to be noted that the feature, "notifying the core network that the mobile device is out of reach" could be realized when the Komandur's reference (data network) is modified by Yarwood's references (paging/locating technique).

**As per claim 37:** the features of claim 37 are similar to the features of claim 1, except detection means for detection at a controller provided in association with the access network that at least one trigger condition associated with the wireless interface is met, which is taught by Komandur (see paragraphs 0045, 0049, 59, claim 1). Any of the conditions in Komandur's reference, i.e., the mobile being out of reach or/and lost packets, can be considered as triggering conditions. Furthermore, the core network postponing/delaying the release of said release link in response to such further message is also taught by Komandur (see paragraph 0045).

**As per claim 40:** the features of claim 40 are similar to the features of claim 1, wherein the first sending unit is the paging source and the second sending unit is the response source that includes the intermediaries (BSC or BSS or BS), as provided by the combined references. Furthermore, regarding the at least one trigger conditions associated with the wireless interface, the packet data that indicates that the mobile is unreachable (paragraphs 0045-0046) or the time out priority (paragraphs 0049, 0059)

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could be considered as trigger condition since the claim does not say what is being triggered. Therefore, claim 40 is rejected on the same ground and motivation as claim 1.

**As per claim 41:** the features of claim 41 are similar to the features of claim 1, except generating and sending a response message on behalf of the mobile device, which is taught by (see col. 7, lines 44-52); and postponing release of said data communication link which is taught by Komandur (see paragraph 0045). Therefore, claim 41 is rejected on the same ground and motivation as claim 1.

**As per claim 2:** Yarwood teaches a communication system, wherein the controller is configured to monitor a condition associated with signal strength on the wireless interface (see col. 7, lines 40-52). Determining "no response" is a function of monitoring.

**As per claim 3:** Vantinen teaches a communication system, wherein the controller is configured to monitor the condition, wherein the condition is associated with the signal strength, and wherein the signal strength comprises the signal strength of uplink link layer frames (see col. 9, lines 8-19). Packet data includes frames.

**As per claim 6:** Yarwood teaches a communication system, wherein the controller is configured to monitor a condition associated with paging of the mobile device (see col. 7, lines 40-52).

**As per claim 8:** Yarwood teaches about a communication system, wherein the controller is configured to monitor pilot signals from the mobile device (see col. 7, lines 40-52).

**As per claim 9:** Komandur teaches a communication system, wherein the core network

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node comprises an access gateway (see fig. 1; paragraph 0004). Block 120 must have a gateway to access the network (110).

**As per claim 10:** Komandur teaches about a communication system, wherein the access gateway comprises a packet data support node (see fig. 1; paragraphs 0030-0033).

**As per claim 11:** Komandur teaches about a communication system, wherein the controller is provided in a base station controller (see fig. 1; paragraphs 0032). A wireless network, like fig. 1), includes a base station controller, which is known to control base stations. This feature is also provided in Yarwood reference (see (BSS)).

**As per claim 12:** Komandur teaches about a communication system, wherein the controller is provided in a packet function associated with the access network (see paragraph 0046).

**As per claim 13:** Yarwood teaches a communication system, wherein the controller is configured to respond to messages that are sent to the mobile device on behalf of the mobile device (see col. 7, lines 44-52).

**As per claim 14:** Komandur teaches about a communication system, wherein the controller is configured to send a notification regarding the status of the wireless interface in response to a message from the core network (see paragraph 0045).

Mobile reach-ability is a status data.

**As per claim 16:** the feature of claim 14 is similar to the feature of claim 2, except 'falling below a threshold', which is well known in the art and would have been obvious



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to implement one for the purpose of determining a useable strength of a signal. Hence, claim 16 is rejected on the same ground and motivation as claim 2.

**As per claim 17:** the feature of claim 17 is similar to the feature of claim 3. Hence, claim 17 is rejected on the same ground and motivation as claim 3.

**As per claim 20:** Komandur teaches about a communication method, wherein the step of detecting comprises detecting that the mobile device has not responded to a paging message (see paragraphs 0045, 0049; claim 2). When the references are combined as discussed above, whether or not the mobile responds can be determined using Yarwood's paging/broadcast technique.

**As per claim 22:** the feature of claim 22 is similar to the feature of claim 8. Hence, claim 22 is rejected on the same ground and motivation as claim 8.

**As per claim 23:** the feature of claim 23 is similar to the feature of claim 13. Hence, claim 23 is rejected on the same ground and motivation as claim 13.

**As per claim 24:** Komandur teaches a method, wherein the step of sending the message from the core network node comprises a request, and wherein the data communication link is maintained only if the request is responded to within a predetermined time/delay (see paragraph 0045).

**As per claim 25:** the feature of claim 25 is similar to the feature of claim 14. Hence, claim 25 is rejected on the same ground and motivation as claim 14.

**As per claim 26:** the feature of claim 26 is similar to the feature of claim 14, except expressing the status of the wireless interface in a binary value, which is (must be) an obvious feature in Komandur's packet data communication network.

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**As per claim 27:** the feature of claim 27 is similar to the feature of claim 1. Hence, claim 27 is rejected on the same ground and motivation as claim 1.

**As per claim 28:** the feature of claim 28 is similar to a feature addressed in the

**As per claim 29:** the feature of claim 29 is similar to the feature of claim 37. Hence, claim 29 is rejected on the same ground and motivation as claim 37.

**As per claim 30:** Komandur teaches a method, further comprising the step of deciding whether data packets may be dropped or buffered in response to detection by the controller that the at least one trigger condition is met (see paragraphs 0045, 0049).

**As per claim 31:** the feature of claim 31 is similar to one of the features addressed in the rejection of claim 32. Hence, claim 31 is rejected on the same ground and motivation as claim 32.

**As per claim 33:** the feature of claim 33 is similar to one of the features addressed in the rejection of claim 32. Hence, claim 33 is rejected on the same ground and motivation as claim 32.

**As per claim 34:** the feature of claim 34 is similar to one of the features addressed in the rejection of claim 1. Hence, claim 34 is rejected on the same ground and motivation as claim 1.

**As per claim 35:** the feature of claim 35 is similar to the feature of claim 30. Hence, claim 35 is rejected on the same ground and motivation as claim 30.

**As per claim 36:** Komandur teaches a method, further comprising steps of detecting at the controller that the mobile device can be reached, notifying the core network

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that the mobile device can be reached, and in response to receiving the notification at the core network, continuing sending of data packets from the core network to the mobile device via the data communication link (see paragraphs 0045, 0049)..

Claims 4, 5, 18 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to the claims above, and further in view of Sivalingham (US 7,154,903 B2).

**As per claim 4:** the references applied to the claims above do not explicitly teach about a condition that comprises expiration of a timer, as claimed by applicant. However, in the same field of endeavor, Sivalingham teaches about a packet control function (fig. 1, element 18) communicatively coupled with a BSC and a PDSN, wherein the PCF, in response to receiving data for a dormant mobile terminal, starts a reactivation timer to set a time within which the mobile must establish connection with the network (see at least the abstract). It is to be noted that the PCF is coupled with the radio access controller (BSC) and thus can be considered as in the service of the controller. Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of Sivalingham for the advantage of managing networks that maintain dormant or inactive packet data session for mobile terminals (see col. 1, lines 7-10).

**As per claim 5:** Sivalingham teaches a communication system, wherein the controller is configured to monitor the condition that comprises the expiration of the timer and wherein the timer is configured to expire before the expiration of the message (see at least, col. 2, lines 29-40).

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**As per claim 18:** Sivalingham teaches a method, wherein the step of detecting comprises detecting an expiration of a timer that is associated with the message from the core network node (see col. 2, lines 29-40; col. 3, line 65-col. 4, line 55; col. 6, lines 7-58). When the references are combined the Sivalingham time could be associated with the core message discussed in the rejection of the claims above. Motivation is as provided in the rejection of claim 4 above.

**As per claim 19:** Sivalingham teaches a method, further comprising sending the message as a response to the message from the core network before the expiration of the message from the core network (see col. 6, lines 7-58). When the references are combined as discussed above, the Sivalingham timer could be associated with the message, as a response to the message from the core network, before the expiration of the message from the core network. Motivation is as provided in the rejection of claim 4 above.

Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over the references applied to claim 15 above and further in view of Lim (US 2002/0057658 A1). For examination purpose, claim 21 is considered first.

**As per claim 21:** the references applied to claims 15 do not explicitly teach about a method, wherein the step of detecting comprises detecting that the registration of the mobile device in the access network has expired, as claimed by applicant. However, in the same field of endeavor, Lim teaches about serving packet dormant handoff in mobile communication system, wherein periodically, when the registration life time of the BSC/PCF link registration is expired, the BSC/PCF shall renew the registration by

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registration request message (see paragraph 0015). Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to further modify the above references with the teaching of LIM for the advantage of releasing a radio packet link of an old packet control function (see paragraph 0022).

**As per claim 7:** the feature of claim 7 is similar to the feature of claim 21. Hence, claim 7 is rejected on the same ground and motivation as claim 21.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Meless N. Zewdu whose telephone number is (571) 272-7873. The examiner can normally be reached on 8:30 am to 5:00 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Appiah Charles can be reached on (571) 272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Any inquiry of a general nature relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571) 272-2600.

Meless Zewdu

Primary examiner

29 June 2007

A handwritten signature in black ink, appearing to read 'Meless Zewdu', is written over the printed name.